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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,836	09/29/2003	Michael Scharland	07072-948001	2532

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FISH & RICHARDSON PC
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER	
PEIKARI, BEHZAD	
ART UNIT	**PAPER NUMBER**
2189	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/673,836	SCHARLAND ET AL.	
	Examiner	Art Unit	
	B. James Peikari	2189	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-13 and 15-19* is/are pending in the application.

4a) Of the above claim(s) *10-13* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-9 and 15-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 10-13 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed November 27, 2006.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 15-19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Specifically, the scope of "a computer-readable medium" has not been limited to a hardware device. Thus, for example, the scope of the claims may include a medium such as a carrier wave, a form of energy, which is not one of the four statutory categories of invention outlined in 35 U.S.C. 101. Note MPEP 2106.

Claim Rejections - 35 USC § 102

4. The previous rejections under 35 USC § 102 are withdrawn due to the request for reconsideration filed on 8/10/2006.

Claim Rejections - 35 USC § 103

5. The previous rejections under 35 USC § 103 are withdrawn due to the request for reconsideration filed on 8/10/2006.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 2-9 and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Kamvysselis et al. (U.S. Patent 6,496,908 B1), hereinafter "Kamvysselis".

Regarding claims 2, 7-9, and 15, Kamvysselis teaches a method for storing data, the method comprising:

writing first and second portions of the data to respective first and second slots within a temporary storage location (column 1, lines 49-56; column 3, lines 31-44);

buffering a plurality of mirror requests to copy the data from the temporary storage location to a mirror (column 6, lines 6-10; column 10, lines 23-27);

determining the validity of the data written to the temporary storage location (column 9, lines 48-53)

if the data written to the temporary storage location is valid, sending the mirror request for execution (Fig. 6, step 108, column 9, lines 58-62); and

Kamvysselis fail to *explicitly* state teach deleting the mirror request if the data written to the temporary storage location is invalid, however the suggestion of such was in Figure 6 and it would have been very obvious to one having ordinary skill in the art at the time the invention was made to abort and delete a mirror request directed to a storage area with invalid data, because (1) that was how computers worked at the time of the invention (why keep a failed request?), (2) Kamvysselis did teach shunting requests to invalid (inconsistent) data off into the dead-end error branch of steps 100 and 102 of Figure 6, and (3) elimination of failed or otherwise useless mirror requests would have been more efficient, by reducing the storage and bandwidth burden on the system.

Regarding claims 3 and 16, Kamvysselis teaches a method, further comprising buffering a mirror request for each of the first and second portions (column 6, lines 6-10; column 10, lines 23-27).

Regarding claims 4 and 17, Kamvysselis teaches a method, further comprising sending all the buffered mirror requests for execution if the data is determined to be valid (column 9, lines 48-53; column 9, lines 58-62).

Regarding claims 5 and 18, Kamvysselis teaches a method, further comprising deleting all the buffered mirror requests if the data is determined to be invalid (Fig. 6, step 124, column 9, lines 53-57; column 10, lines 19-22).

Regarding claims 6 and 19, Kamvysselis teaches a method, wherein buffering the mirror request comprises buffering the mirror request in a memory location separate from the temporary storage location (column 5, lines 56-67; column 6, lines 1-8).

Response to Arguments

8. Applicant's arguments filed on August 10, 2006 have been carefully considered but are not deemed to place the application in condition for allowance for at least the following reasons.

(A) As for the argument on page 2 that Kamvysselis fails to teach deleting mirror requests in response to invalid data, this argument has been rendered moot by the new grounds of rejection.

(B) As for the argument on page 3 that Kamvysselis fails to teach writing portions of data into respective slots, applicant's remarks are not commensurate in scope with the claimed invention. Specifically, applicant appears to have a more narrow

definition in mind for "slots" than the broadest reasonable interpretation of such "slots". In general, slots as used in data processing systems are locations at which hardware devices (most notably storage modules) may be inserted or removed. This definition is clearly not relevant to applicant's disclosure. Thus, in accordance with applicant's disclosure, the examiner has interpreted "slots" to mean "distinct memory areas". Applicant's claims and disclosure have provided nothing that would limit such an interpretation. Thus "*the* data" might include two lines of data, whereas two "slots" may be two lines of storage in a memory array, for example. Such an interpretation is one of many that would be well within the scope of "slots" as interpreted above. Kamvysselis is one example of such a system that would teach this. First and second portions of data may be written to any "distinct memory areas" (i.e. two lines, two blocks, etc.) of temporary storage 24.

(C) As for the argument on page 4 that Kamvysselis fails to teach deleting plural mirror requests, this is not true. Kamvysselis teaches a plurality of mirror requests (e.g., 42a) and it is noted that the steps of Figure 6 are repeated for every pending mirror request, not just once in the lifetime of the machine.

(D) As for the argument on page 5 that Kamvysselis fails to teach buffering mirror requests, the examiner agrees that "buffering" and "queuing" are different, but only to the extent that "queuing" is a particular type of "buffering". By way of analogy, a square and a rectangle are different, although a square is a particular type of rectangle.

As for applicant's analogy regarding bullets in flight, this is not a "queue" because there is no "waiting" involved. It is a sequence, but not a queue. If there is any queue in that example it would be the bullets in the cartridge that have not yet been fired.

As a further example, note Class 710/54 ("Queue content modification") of the U.S. Patent Classification system is a subclass of 710/52 ("Input/Output data buffering").

Consequently, Kamvysselis teaches the claimed buffering with queues 40a and 40b.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Peikari whose telephone number is (571) 272-4185. The examiner is generally available between 7:00 am and 7:30 pm, EST, Monday through Wednesday, and between 5:30 am and 4:00 pm on Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reginald Bragdon, can be reached at (571) 272-4204. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center at 866-217-9197 (toll-free).

B. James Peikari
Primary Examiner
Art Unit 2189
2/10/07